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33. (Previously Presented) The system of claim 36, wherein electric charges drawn across the semiconductor layer is greater near the first surface of the semiconductor layer adjacent to the charge-collection layer relative to the second surface.

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34. (Previously Presented) The digital radiography system of claim 36, wherein the flat panel imager is a TFT-based imager.

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35. (Previously Presented) The digital radiography system of claim 36, wherein the flat panel imager is a CCD-based imager.

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36. (Previously Presented) A digital radiography system, comprising:
an x-ray source to transmit x-rays;
a flat panel imager to receive the x-rays and to produce a digitized image,
comprising:

a semiconductor layer disposed above a charge-collection layer;

a bias electrode layer disposed above the semiconductor layer, the bias electrode to generate an electric field within the semiconductor layer;
and

a casing that holds the flat panel imager together, wherein the casing forms an aperture window to receive the x-rays; and

a display system connected to the flat panel imager, the display system to display the digitized image, wherein the semiconductor layer has a first surface adjacent to the charge-collection layer and a second surface adjacent to the bias electrode, and wherein the flat panel imager is configured such that x-rays traverse the charge-collection layer before propagating through the semiconductor layer.